REMARKS

This application has been reviewed in light of the Office Action dated May 18, 2007. Claims 1-22 are presented for examination, and have been amended to define more clearly what Applicants regard as their invention. Claim 23 has been canceled, without prejudice or disclaimer of subject matter. Claims 1 and 12 are in independent form. Favorable reconsideration is requested.

Claims 2, 7, 13, 18, and 23 were objected to at pages 2 and 3 of the Office Action, for the reasons given. The claims have been carefully reviewed and amended as deemed necessary to overcome these objections. It is believed that the objection to Claims 2, 7, 13, 18, and 23 has been obviated, and its withdrawal is therefore respectfully requested.

Claims 1, 12, and 23 were rejected under 35 U.S.C. § 102(b) as being anticipated by European Patent Application No. EP 1 069 764 A2 (*Hidetaka*). Claims 2, 5, 13, and 16 were rejected under 35 U.S.C. § 103(a) as being obvious from *Hidetaka* in view of *Muller* (the publication entitled "Improving and Managing Multimedia Performance over TCP/IP Nets", International Journal of Network Management, pp.356-367, 1998); Claims 3, 6, 9, 10, 14, 20, and 21, as being obvious from *Hidetaka* in view of *Keeney* (U.S. Patent Application Publication No. US 2002/0141650 A1); Claim 4 and 15, as being obvious from *Hidetaka* in view of *Keeney*, and further in view of *Keeney*; Claims 8 and 19, as being obvious from *Hidetaka* in view of *Keeney*, and further in view of *Keeney*; Claims 6, 11, 17, and 22, as being obvious from *Hidetaka* in view of *Christopoulos* (the publication entitled "The JPEG2000 Still Image Coding System: An Overview", IEEE Transactions on Consumer Electronics, Vol. 46, No. 4, pp. 1103-1127, 2000); and Claims

7 and 18, as being obvious from *Hidetaka* in view of *Christopoulos* and further in view of *Nayyar* (U.S. Patent Application Publication No. US 2002/0012471 A1).

Applicants first wish to discuss the general context of the present invention.

An encoded image may be decoded in multiple ways. The decoding parameters may include, for example, a resolution level and/or a selected number of quality layers. The total number of quality layers is defined when encoding the image. That number may be very high, e.g. up to 65,535 layers in the case of a JP2K encoded image, and under such circumstances, choosing the suitable decoding parameters for the final end-user may be very difficult.

Typically, for image compression, three types of qualities are often used: low, medium, and high. One challenge is to allow a creator of contents including digital images to define those quality modes with his own plural criteria (namely, visual quality, bitrate, etc.), while allowing the final end-user to access only that limited number of quality modes (e.g., the above-mentioned three modes) defined by the content creator.

The present invention provides an animation content creator with suitable tools so that he or she can easily define such a limited number of quality modes, starting from all possible quality layers that are originally accessible in the encoded image. The decoding parameters that correspond to the limited number of quality modes thus defined are then recorded with the image, in such a manner that the defined modes are the only ones that will be available to the final end-user.

Thus, in brief, the present invention enables the creator of content to define a predetermined number of quality modes for a previously encoded image, by associating a

set of decoding parameters to each quality mode. The image will then be available to the final user in those different quality modes only.

Claim 1 is directed to a method of defining qualities for a digital image signal encoded beforehand, including defining a plurality of quality modes each corresponding to at least one decoding parameter of the digital signal, on the basis of rate information provided via a graphical interface and perception quality information provided via a visualization of the decoded digital signal. A digital image in a given one of the quality modes is obtained by decoding the digital image signal encoded beforehand using at least one decoding parameter corresponding to the given quality mode. All of the quality modes defined and only the quality modes defined are made accessible to a final user.

Among other notable features of Claim 1 are defining a plurality of quality modes each corresponding to at least one decoding parameter of a digital signal encoded beforehand, in which a digital image in a given one of the quality modes is obtained by decoding the digital image signal encoded beforehand using at least one decoding parameter corresponding to the given quality mode.

Hidetaka, as understood by Applicants, relates to an image quality confirmation apparatus and method, to be used for video streams. The method discussed starts from a compressed video stream in MPEG2 format, at a given bit rate, and consists of recompressing the video stream with another compression parameter, that is to say, an encoding parameter (e.g., a bit rate/compression ratio), and in presenting to a user on a screen the new stream generated.

Several video streams with various compression parameters are thus presented to the user simultaneously (see for example Figures 2 and 5), in such a manner

that the user can preview them and select a desired quality. The average bit rate of each video stream is represented on the user interface (see column 8, paragraph [0057], which states: "the image quality graph is formed based on the bit rate of the digital stream"). The user can change the compression ratio and visualize the video once recompressed with the changed compression ratio.

Recompression is carried out by a transcoder unit and consists of decoding the initial bitstream compressed at an initial bitrate, re-encoding it at the new selected compression ratio, and decoding the re-encoded bitstream (which operation is called "expanding" by *Hidetaka*), in order to display the resulting image on the user's screen.

As seen, *Hidetaka* deals with compression parameters, i.e. encoding parameters, in order to define different image qualities. However, the method of Claim 1 recites defining quality modes "each corresponding to at least one decoding parameter."

Nothing in *Hidetaka* would teach or suggest defining a plurality of quality modes each corresponding to at least one decoding parameter of a digital signal encoded beforehand, in which a digital image in a given one of the quality modes is obtained by decoding the digital image signal encoded beforehand using at least one decoding parameter corresponding to the given quality mode, as recited in Claim 1.

Accordingly, Claim 1 is seen to be clearly allowable over *Hidetaka*.

Independent Claim 12 recites features which are similar in many relevant respects to those discussed above in connection with Claim 1, and accordingly, Claim 12 is believed to be patentable for at least the same reasons as discussed above in connection 1.

A review of the other art of record, including *Keeney*, has failed to reveal anything which, in Applicants' opinion, would remedy the deficiencies of the art discussed

above, as references against the independent claims herein. Those claims are therefore believed patentable over the art of record.

The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

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